

IN THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Previously Presented) A method for managing a scene graph, the method comprising:
determining a current location for a viewpoint;
determining a current locality threshold based on at least the current location of the viewpoint;
determining which portions of the scene graph are relevant to the current locality threshold;
loading into a local memory those portions of the scene graph that are relevant within the current locality threshold;
replacing portions of the scene graph that are not relevant within the current locality threshold with one or more pointers, wherein the pointers indicate where the replaced portions may be loaded from if the replaced portions are needed;
determining a predicted future locality threshold; and
loading into the local memory those portions of the scene graph that are relevant within the predicted future locality threshold, wherein said replacing is performed only on portions of the scene graph that are not relevant within (i) the current locality threshold and (ii) the predicted future locality threshold.
2. (Canceled)
3. (Previously Presented) The method of claim 1, further comprising:
determining a current velocity for the viewpoint, wherein the predicted future locality threshold is determined based on at least the current location for the viewpoint and the current velocity of the viewpoint.

4. (Original) The method of claim 3, wherein said velocity comprises both translational and rotational components.
5. (Original) The method of claim 3, further comprising:
determining a current acceleration for the viewpoint, wherein the predicted future
locality threshold is determined based on at least the following:
the current location for the viewpoint,
the current velocity of the viewpoint, and
the current acceleration of the viewpoint.
6. (Original) The method of claim 5, wherein said acceleration comprises both translational and rotational components.
7. (Original) The method of claim 3, further comprising:
determining a current orientation for the viewpoint, wherein the predicted future
locality threshold is determined based on at least the following:
the current location for the viewpoint,
the current velocity of the viewpoint, and
the current orientation of the viewpoint.
8. (Original) The method of claim 3, further comprising caching the replaced portions of the scene graph to a local hard drive, wherein the pointers point the replaced portions on the local hard drive.
9. (Original) The method of claim 3, wherein the pointers point to network locations from which the replaced portions of the scene graph may be loaded.
10. (Original) The method of claim 3, further comprising:
compressing the replaced portions of the scene graph; and

storing the compressed portions of the scene graph, wherein the pointers indicate where the compression portions of the scene graph are stored.

11. (Original) The method of claim 1, wherein said replacing is performed only once a predetermined level of memory utilization is reached.

12. (Original) The method of claim 1, wherein said replacing employs hysteresis to prevent thrashing.

13-32. (Canceled)

33. (Previously Presented) A computer program embodied on a computer-readable medium, wherein the computer program comprises a plurality of instructions that are executable to:

- determine a current location for a viewpoint;
- determine a current locality threshold based on at least the current location of the viewpoint;
- determine which portions of the scene graph are relevant to the current locality threshold;
- load into a local memory those portions of the scene graph that are relevant within the current locality threshold;
- replace portions of the scene graph that are not relevant within the current locality threshold with one or more pointers, wherein the pointers indicate where the replaced portions may be loaded from if the replaced portions are needed;
- determine a predicted future locality threshold; and
- load into the local memory those portions of the scene graph that are relevant within the predicted future locality threshold, wherein said replace is performed only on portions of the scene graph that are not relevant within (i) the current locality threshold and (ii) the predicted future locality threshold.

34. (Previously Presented) The computer program of claim 33, wherein the instructions are further executable to:
determine a current acceleration of the viewpoint; and
use at least the acceleration value to determine the predicted future locality threshold.
35. (Previously Presented) The computer program of claim 33, wherein the instructions are further executable to:
render one or more frames based on the scene graph.
36. (Previously Presented) The computer program of claim 33, wherein the instructions are further executable to: receive user input regarding movement of the viewpoint.
37. (Previously Presented) The computer program of claim 33, wherein the computer program is an application programming interface (API).
38. (Previously Presented) The computer program of claim 33, wherein the computer program is a graphics application.
39. (Previously Presented) A method for managing a scene graph comprising a plurality of pointers, the method comprising:
determining a current location for a viewpoint;
determining a current locality threshold based on at least the current location of the viewpoint;
determining which of the pointers point to data that is relevant to the current locality threshold;
loading into a local memory the data that is relevant to the current locality threshold;

moving any data that is not relevant to the current locality threshold from the local memory to a new location;
redirecting pointers in the scene graph that correspond to the moved data to point to the new location;
determining a predicted future locality threshold; and
loading into the local memory those portions of the scene graph that are relevant within the predicted future locality threshold, wherein said redirecting is performed only on pointers in the scene graph that are not relevant to the current locality threshold and the predicted future locality threshold.

40. (Original) The method of claim 39, wherein the current locality threshold equals a current view frustum.
41. (Original) The method of claim 39, wherein the moving is only performed if the local memory reaches a predetermined level of fullness.
42. (Previously Presented) The method of claim 1, wherein said determining which portions of the scene graph are relevant within the current locality threshold comprises determining which of the objects in the scene graph are visible from the current viewpoint location.
43. (Previously Presented) The method of claim 1, wherein the replaced portions of the scene graph correspond to objects in the scene graph that are not visible from the current viewpoint location.
44. (New) The method of claim 39, wherein said moving any data is performed only on data that is not relevant to both the predicted future locality threshold and the current locality threshold.